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THE AMERICAN MUSEUM JOURNAL

FUR SEALS (ADULT MALES), PRIBILOF ISLANDS

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The American Museum Journal

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MARY CYNTHIA DICKERSON, *Editor*

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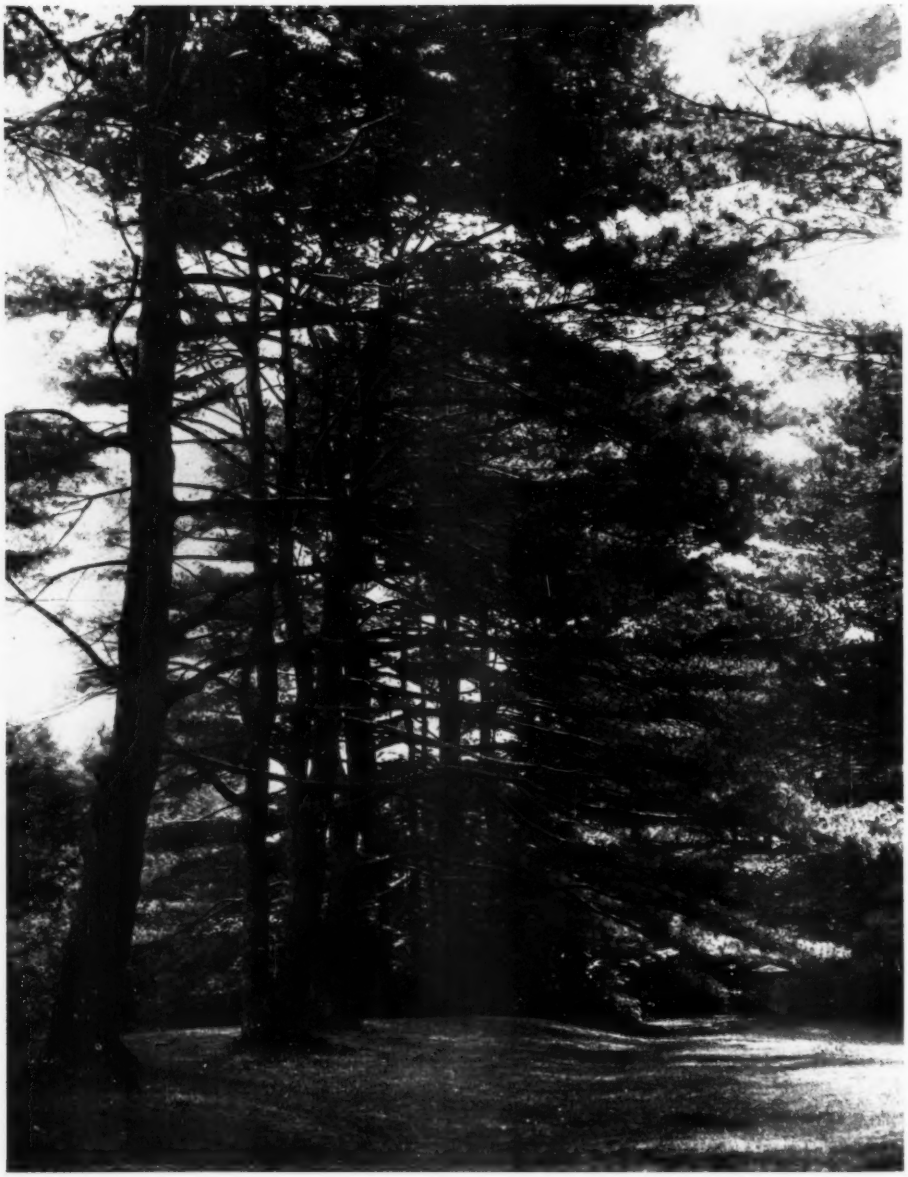


From *Trees and Forestry* [In press.

PINES ON THE ESTATE OF THE LATE MORRIS K. JESUP, LENOX, MASSACHUSETTS

The American Museum Journal

VOL. XI FEBRUARY, 1911 No. 2

QUOTATIONS CONCERNING MORRIS KETCHUM JESUP AND THE AMERICAN MUSEUM[1]

WHEN Mr. Orr called upon Mr. Jesup to request his consent to his nomination as President of the Chamber of Commerce, he found him engrossed in the study of some building plans which covered his table. "Mr. Jesup," said Mr. Orr, "I have got a piece of interesting news to give you." "All right," said Mr. Jesup, "just wait a moment until I show you this plan." "But, my dear Jesup," remonstrated Mr. Orr, "this business of mine is important. I have come to tell you that I wish to nominate you for President of the Chamber of Commerce." "Indeed," said Mr. Jesup, "I am glad to hear it, but, look here, I want to show you what a splendid plan this is." And he turned back again to the papers on the table. It was only after he had relieved his mind of this paramount interest that he had leisure to appreciate the new honor and responsibility to which his colleagues of the Chamber invited him.

The plan which Mr. Orr found Mr. Jesup studying was that of the new wing of the American Museum of Natural History. The place which the Museum held in Mr. Jesup's regard, the long and devoted service which he rendered it, and the eminence which it attained under his leadership are well known. For more than a quarter of a century it was his controlling interest, and it remains to-day his most enduring monument.

"The two grandly distinctive features of Mr. Jesup's administration," writes President Osborn, "were, first, the desire to popularize science through the arrangement and exhibition of collections in such a simple and attractive manner as to render them intelligible to all visitors; and secondly, his recognition that at the foundation of popular science is pure science, and his determination, which increased with advancing years, that the Museum should be as famous for its scientific research and explorations as for its popular exhibitions of educational work."

[1] MORRIS KETCHUM JESUP: A CHARACTER SKETCH. By William Adams Brown. Charles Scribner's Sons, 1910.

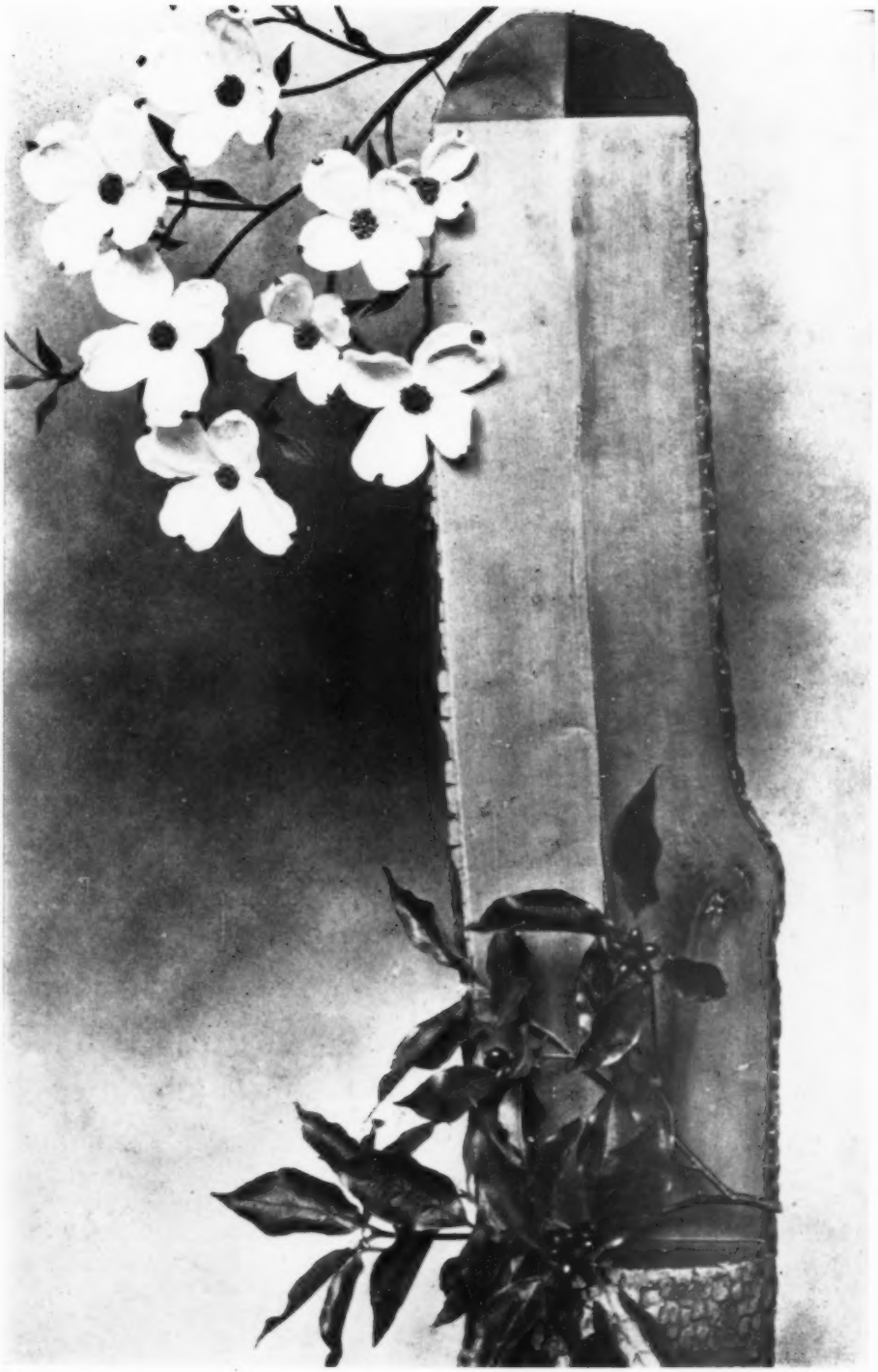
On December 29, 1906, a large and representative audience gathered in the lecture room of the Museum to witness the presentation to the Trustees of the series of busts of eminent American naturalists which now adorns the spacious anteroom through which visitors approach the Museum. The idea was Mr. Jesup's, and he provided the funds. The gift fitly symbolizes his conception of the part played by science in the complex circle of interests, of whose joint efforts the Museum is the expression.

"I suppose," says Mr. Choate, his fellow founder and trustee, speaking some years later at the Chamber of Commerce, "that I may speak with authority of Mr. Jesup's services to the world in the Museum of Natural History. I should hardly venture in the presence of Mr. Morgan to claim for him a monopoly of the generosity that endowed that institution from the beginning; nor would I forget the abundant aid of many other generous benefactors; but I will say that he was the chief factor, the most powerful and effective agent in bringing it to the great eminence that it enjoys to-day."

This great service was fitly signalized by his fellow trustees on February 12, 1906, when in commemoration of the twenty-fifth anniversary of his presidency, they presented to him a loving cup beautifully designed in gold, with inscriptions and symbols in allusion to those branches of science in which he had taken a special interest. On one face of the cup reference was made to the forestry of North America; on another his interest in vertebrate palæontology was indicated, and his gift of the Cope collection of fishes, amphibians, and reptiles was mentioned; on the third face was a design symbolizing the work of the Jesup North Pacific expeditions, the last and greatest of the enterprises toward which his efforts were directed.

"It is not because of the long period of his service," writes Professor Bumpus, "nor because of his unfailing devotion, nor yet because of his innumerable gifts, that Mr. Jesup's administration of the affairs of the American Museum of Natural History will mark a distinct epoch in the history of the institution....

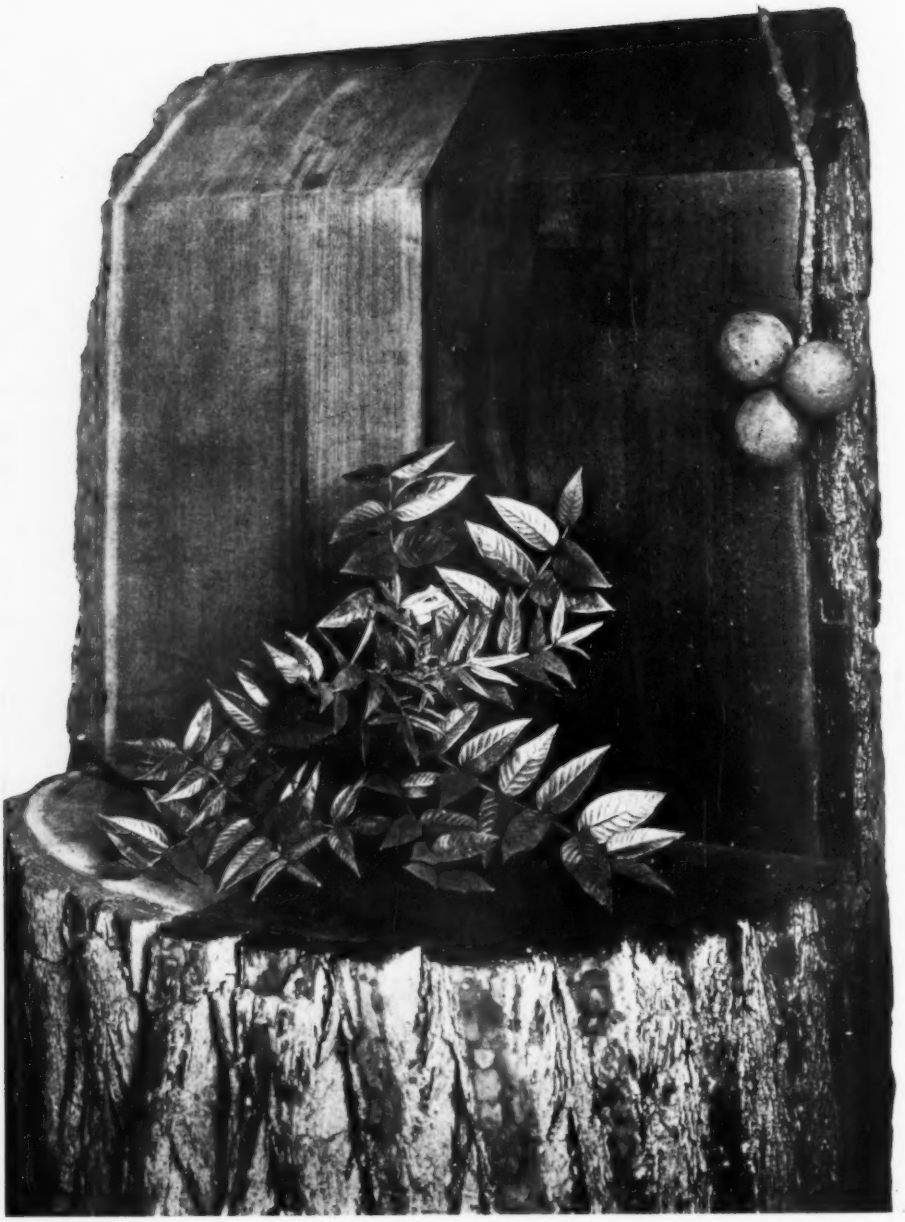
"It is because he served long and also well; it is because he was devoted and at the same time exercised good judgment; it is because he not only gave but gave wisely, that he finally enjoyed the fruit of his labor, that his devotion to the Museum ripened into absorbing affection, and that his example of giving infected those associated with him."



From *Trees and Forestry* [In press]

FLOWERING DOGWOOD, JESUP COLLECTION OF WOODS

The models of leaves, flowers and fruits are so perfectly executed that it is often difficult to discover even by careful scrutiny how much is the original and how much is reproduced



From *Trees and Forestry* [In press]

BLACK WALNUT, JESUP COLLECTION OF WOODS

Full-grown black walnut trees practically no longer exist in America's forests. Thus the Jesup Collection is already beginning to prove its value as an historical record

FORESTRY AND THE MUSEUM

THE MUSEUM A POWER FOR THE EDUCATION OF THE PUBLIC REGARDING IMPORTANT QUESTIONS OF THE PERIOD

By J. W. Toumey

[ACTING DIRECTOR OF THE YALE FOREST SCHOOL AND MORRIS K. JESUP PROFESSOR OF SILVICULTURE, MEMBER OF THE APPOINTIVE COMMITTEE OF WOODS AND FORESTRY OF THE AMERICAN MUSEUM OF NATURAL HISTORY]

AT no period of our national life has the public been so keenly alive to the importance of our forests and what they mean to the future welfare of the nation. We have in comparatively recent years segregated more than 190,000,000 acres from our national domain and withdrawn it from settlement that it might remain forever the forest property of the nation. We are asking in the Weeks Bill[1] now before Congress that large areas in the Appalachian and White Mountains be purchased outright by the national government to form a part of the forest property of the nation. Many of the states, as is the case with New York and Pennsylvania, have already purchased large tracts of forest property and set them aside as forest preserves. The present outlook appears to indicate that many such reserves will be established in the states east of the Great Plains in the near future. As a nation we are demanding the conservation of our forest property and asking private owners of forest property to manage it in accordance with the ideas of scientific forestry. Although the public is fully in accord with the idea of national and state forests and fully realizes the need for a better utilization of our forest property, it is yet woefully ignorant regarding the forest as a living thing and has but little information

[1] The Weeks Bill is scheduled to come up for Senate vote on February 15, 1911. It is as follows:

> "To enable any state to coöperate with any other state or states, or with the United States for the protection of the watersheds of navigable streams, and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of navigable rivers."

This bill, the product of the combined study of some of the ablest men in Congress, is a general conservation bill for the creation of national forests. The immediate interest, however, lies in the Appalachian and White Mountain region controlling the watersheds of the most important rivers of the East and the South and containing a great part of the timber supply.

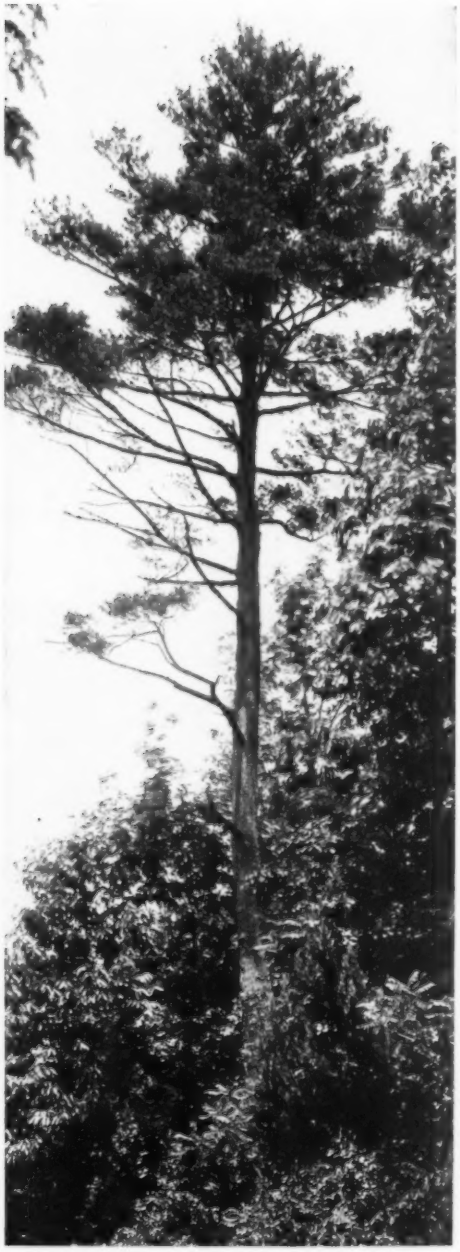
The question of reserves for the East has been under discussion for ten years. The Weeks Bill itself has previously passed the Senate three times and the House once. In the sixty-first Congress it again passed the House, June 24, 1910; it was filibustered in the Senate, however, so that Congress adjourned without a passage of the bill.

From *Trees and Forestry* [In press]. Department of Woods and Forestry of the American Museum.

From *Trees and Forestry* [In press]

VIEW FROM MOUNT WILSON

In spring the melting snows of mountains are absorbed and held by surrounding forests as in a sponge, to be sent out slowly throughout the summer in an equalized supply of water to lower levels. If the forests are cut from the slopes, this water is wasted in damaging floods, while in summer there are droughts and rivers run low



A WHITE PINE ON THE ESTATE OF THE LATE MORRIS K. JESUP

This tree was a particular favorite and was saved in spite of the advice of landscape gardeners

From *Trees and Forestry* [In press]

DECORATIVE BIRCHES AGAINST A BACKGROUND OF DARK TREE TRUNKS. ESTATE OF THE LATE MORRIS K. JESUP, LENOX, MASSACHUSETTS

regarding the many ways the forest affects our present prosperity and how vital its conservation is to the future life of the nation.

The usefulness of a Museum depends upon how fully it serves the public as an educational institution, whether the instruction concerns the preservation of forests, of the country's mammals and birds, questions along lines of public health and public education or yet other directions of work. To a very large degree its power to instruct is measured by its effectiveness in commanding attention regarding the things worth while in everyday life. For this reason at one period of its history a museum may have to direct public attention to events and things quite different from at other times, depending upon the particular needs of the period. The old idea of a museum as a storehouse for miscellaneous objects from all corners of the earth is of the past. A new idea prevails, that a museum is to a large degree a place in which objects are exhibited in such a manner as to convey to the public the greatest amount of useful information of present interest.

The Forestry Hall of the American Museum at present and in its future development along lines following out Mr. Jesup's original interests and pioneer work in forest preservation [1] has a great work to do in education. The present interest in forest conservation and the need for public education regarding the life of the forest and the important uses that the forest serves in our national economy, clearly point out the direction that the future development of the American Museum must take in reference to this important subject.

[1] On December 6, 1883, Mr. Jesup presented in the Chamber of Commerce the following:

"To the Honorable the Legislature of the State of New York, in Senate and Assembly Convened:

May it please your Honorable Body:

The Chamber of Commerce of the State of New York is alarmed at the dangers which threaten the water supply of the rivers in the northern part of the State through the destruction of the forests which protect their sources.

The Chamber believes that the preservation of these forests is necessary to maintain an abundant and constant flow of water in the Hudson, the Mohawk and other important streams; and that their destruction will seriously injure the internal commerce of the State. As long as this forest region remains in the possession of private individuals, its protection from fire and lumbering operations will be impossible. Believing, then, that this matter is one of very great importance, and that the necessity exists for immediate legislative action, we humbly pray your Honorable Body to adopt such measures as will enable the State to acquire the whole territory popularly known as the Adirondack Wilderness, and hold it forever as a forest preserve."

[That the proposed legislation was eventually secured and that New York has its state forests to-day was largely due to the unceasing efforts of Mr. Jesup.] Here, as so often, his work was that of a pioneer. To-day forest preservation has become an accepted national policy; but twenty-five years ago this was not the case, and the action taken by the Chamber of Commerce on Mr. Jesup's initiative was an important factor in educating the sentiment which has made the wider movement possible.

From *Morris Ketchum Jesup*, Charles Scribner's Sons, 1910.

REPORT FROM THE CONGO EXPEDITION[1]

By Herbert Lang

[The Museum's Congo Expedition sends word of the health of its members and the success of its work in zoölogical survey, with the story of hunting the rare okapi from a chain of isolated camps in the hot, wet jungle. The next issue of the JOURNAL will contain a colored plate of the okapi with an account of present knowledge regarding the species.— Editor]

WE left Avakubi December 7, 1909, with fifty-five porters and after increasing our collections at N'Gayu and Bafwaboka, arrived at Medje January 13. As we heard about good hunting grounds, possibly with okapi, south of Gamangui, we made the necessary preparations and set out at once. After more than six months' work in a lonely uninhabited tract some eighty miles square, we returned to Medje July 17. Since then we have made several transports and stored safely all our collections, besides accumulating the necessary equipment with which to set out next Saturday, October 15, for the Uele.

We profit by this occasion to thank all those who have extended to us the privilege of carrying on such interesting work in regions that well deserve to be called the "Heart of Africa," and who by their great generosity have provided us with an equipment that makes it comparatively easy to maintain good health even under a most trying and disagreeable climate. Though camped for nearly six months in or about the dense forest, we both enjoyed excellent health.

All our native helpers have always been in good condition. All our equipment including firearms and tents is in perfect order. Our supplies are sufficient to carry on the work without interruption. The active personnel has remained practically the same — eighteen native assistants. One Loango had to be sent back to Leopoldville on account of the ill-health of his wife, and has since been replaced by an intelligent Mangbetu, whose services are very desirable in this region of the Mangbetu people.

The plans for porterage have worked very satisfactorily, and although the natives are true cannibals and are seldom seen without poisoned arrows or other weapons, we have succeeded well in enlisting their services. This may best be illustrated by the fact that the Congo Expedition since leaving Stanleyville has employed and paid more than 3,400 natives and has never experienced the slightest accident in handling them.

The record of the expedition shows a total of 4,952 specimens collected, exclusive of at least 15,000 invertebrates, and 1,120 pages of data and descriptive notes which are supplemented by 800 photographs. It is

[1] Selections from the *Annual Report of the Congo Expedition* by Herbert Lang. Manuscript sent from Medje, Haut Ituri, October 8, 1910; received at New York January 13, 1911.

probable that these are the largest and most important collections ever gathered by a single expedition in the midst of the dense forest of the Congo, and they represent a completeness of series that will be surprising. How true this is may be ascertained from the work with regard to the okapi, but all departments have equally profited.

All the skins have been safely stored away in the expedition's large galvanized iron tank originally brought in sections to Avakubi, where it has been put up in one of the government magazines. The remainder of our collections is stored in a government magazine in Medje, which we ourselves have lately made fireproof by constructing a ceiling of beams and sticks, covered with reeds and a layer of soil.

The record for large mammals is as follows: 402 specimens covering 50 species = a nearly complete series of the larger mammals of the dense Congo forest, 206 pages of descriptions, 76 skeletons, a large collection of fœtal specimens, 18 plaster casts and many photographs.

For nearly six months we camped as close as possible to the haunts of the okapi and though we profited by the skill of the most experienced native trappers, who were engaged in catching okapi for food purposes, during the first two months we secured no reasonable success. The superstition of the natives, and the hot moist climate, counteracted our best organized efforts. After interminable palavers, however, the native trappers consented to allow our native assistants, who were trained to skin large mammals independently, to camp with them in the forest.

Therefore we established three camps at a distance of fifteen to twenty-five miles from our main camp, thus adopting the native system of hunting in small parties, for in these perfectly uninhabited forests it is an impossibility to provide suitable food for any large company of men. Whenever the native trappers succeeded in killing an okapi, some of them would march day and night toward our main camp. In the meantime our native assistants who camped with them would take off the skin and cure it as much as possible until I could reach the place. Within two months from the time of organization of this plan, we had added to the two skeletons of male and female already obtained, three perfect skins of females and that of a young okapi.

Two months later we at last succeeded in obtaining a good sized male. This okapi like all the others had been caught by a noose around the foot, but in an almost impenetrable swamp. Unfortunately in its struggles to free itself, it rubbed a portion of the skin, which however can easily be repaired.

The following month we secured the accessories for the group on the very same spot where one of the males had expired, which chanced to be

Through courtesy of the British Museum

HEAD OF MOUNTED OKAPI, BRITISH MUSEUM

Young male okapi presented by the late Mr. Boyd Alexander, 1907. Welle River near northern border of the Congo Free State. From *Monograph of the Okapi* by Sir E. Ray Lankester, 1910

one of the most typical portions of the haunt of the okapi. The accessories represent twenty-five loads of material. Of the larger trees the bark only has been taken, and everything has been so numbered that there will be no trouble in readjusting the different sections or pieces of bark. Many leaf moulds have been made. Mr. Chapin has prepared very exact and beautiful color sketches of the different leaves. Besides, typical twigs and leaves of all trees, bushes and low plants are preserved in formalin.

The casts of the heads of male and female okapi are deserving especial mention. The exterior of the head shows no giraffe-like characters which, judging from the skull, were supposed to exist. Indeed, the lips are not prehensile in any way and on account of the somewhat square mouth and rather small eyes there is much more resemblance to the head of a large deer. The prehensile tongue, the palate and sections of the four divisions of the stomach have been preserved in formalin. There is also the complete skeleton of a large-sized embryo showing a very interesting stage. The descriptions are rather complete with regard to habits, food, calving season and haunts. Detailed measurements have been secured. Over forty-five excellent photographs will guarantee correct representation of the group work. Detailed photographs of every form of vegetation have also been secured.

With regard to elephants, I sincerely hope that we shall succeed in preparing the skins of one or two large specimens. Permission to collect four specimens has been granted by *Son Excellence, le Vice-Gouverneur Général de la Colonie*, F. Fuchs, at Boma.

The Lado Enclave, with its white rhinoceroses, is now out of our reach, as on account of the demise of His Majesty, King Leopold, these regions have been returned to England. On the other hand according to some reports lately received, it is not impossible that we may find these interesting creatures in the eastern portions of the Uele.

Of small mammals there are 1,054 specimens collected. During several

Through courtesy of the British Museum

PHOTOGRAPH OF LIVING OKAPI ONE MONTH OLD

Photograph taken by Monsieur Ribotti on the Welle River. The photograph was shown at the meeting of the British Association at Leicester on August 5, 1907, and reproduced in *Illustrated London News*, September 7, 1907

months the expedition had from 300 to 500 traps set and daily revised. The Mangbetu have displayed remarkable skill in capturing the smaller mammals with their own native traps.

A collection of 1,885 birds covering 290 species is accompanied by full and exact data. Very many of the species are represented not only by both sexes, but also by a series of young in different plumages. A large number of nests and sets of eggs have been secured. The most interesting of the nests is that of the largest hornbill (*Ceratogymnas*). It was the desire of Mr. Chapman to have a group showing the peculiar habit these birds have of enclosing the female by a plaster of mud. We were fortunate to secure remarkably fine accessories, also the male and female birds and the young. The nest was located at a distance of about 70 feet from the ground in a tree over 130 feet high. The tree was felled and a sufficiently long portion cut out and sawed into sections for transportation. Twenty color sketches of birds have been prepared, among which are the hornbills for the group.

For the Department of Anthropology an interesting collection of 700 specimens has been gathered from the Mangbetu, the most highly cultured natives of these regions. Full data giving necessary explanations with regard to use, habit, custom or belief have been entered in the catalogue. Besides, a great number of photographs show the many phases of daily life, such as village scenes, dances, social gatherings and ceremonials. Excellent portraits and plaster casts have been gained. Several of the remarkably elaborate hairdresses of both men and women have also been obtained in perfectly intact condition.

The Mangbetu excel in their iron work; indeed their well-forged and finely-worked knives are masterpieces of negro blacksmithing. Their pottery in its best samples reminds one of ancient Greek work. In producing well-balanced forms of artistic finish they show a very high development. Their carved and ornamented stools, benches, figures and shields, and their hat-pins of ivory may well be classed among works of art.

A Pygmy child's skeleton is obtained, and shows a very interesting lengthening of the skull, produced by the common habit among the Mangbetu (adopted by the Pygmies who are attached to their villages) of using bandages about the new-born child's head. Photographs showing this practice have been taken.

I take pleasure in repeating from the report of November 29, 1909, the statement that the coöperation of the Belgian Government is most cordial, and that all the officers have assisted us according to their position or our needs.

THE FINISHED FUR SEAL GROUP

WITH REMARKS ON THE HABITS OF THE FUR SEAL AND THE PRESENT CONDITION OF THE SEALING INDUSTRY

By Charles H. Townsend

THE fur seal group, mounted by Mr. Blaschke and recently put on exhibition in the Hall of Mammals, is the gift of the late Mr. D. O. Mills. The Museum has long been in need of just such a series of fur seals, which includes the adult male, females and young.

The fur seal holds a unique place in the annals of international controversy. No other wild animal has ever been the subject of a dispute so earnestly contested and so long continued. For more than twenty years the American and Asiatic seal herds have been under almost constant discussion, and the reading public on two continents at least has become familiar with the subject under such headings as the "Bering Sea Controversy," the "Fur Seal Question," or the "Pelagic Sealing Matter."

The fur seal industry has been investigated and reported upon at different times by international commissions and two courts of arbitration have solemnly considered it in every possible phase. The report of the Paris Tribunal alone consists of eighteen thick octavo volumes, while the documents of the United States Senate and House of Representatives, State Treasury and Commerce departments, devoted exclusively to the fur seal subject, are too numerous to mention. For several years during the height of the controversy the warships of Great Britain and the United States patrolled the waters of Bering Sea watching every move of the sealing fleets, and a number of revenue cutters has remained on guard even to the present time. Although the sealing regulations framed by the Paris Tribunal in 1892 remain in force, the fate of the fur seal as the basis of a valuable industry is still unsettled. Its continued existence as a species becomes more doubtful every year and renewed efforts are being made to save it.

The cause of the trouble is simply the value of the fur seal's pelt. Here is the story in a nutshell. Before the great ocean sealing fleets came into existence, the catch of seal skins was made on the islands in Bering Sea where the animals breed. Only selected males were taken and these were killed under careful government supervision. As the fur seal is highly polygamous there is always a natural surplus of males available for commercial purposes. With the development of ocean or "pelagic" sealing, the

PORTION OF FINISHED FUR SEAL GROUP

The seals, collected expressly for the Museum in 1908 at the Pribilof Islands, were the gift of the late Mr. D. O. Mills. The specimens were mounted by Frederick Blaschke, animal sculptor, to show a small portion of a seal rookery. (The young seals, which are on the other side of the group, are not in view)

killing of female seals began, and this naturally resulted in the rapid reduction of the breeding stock. Twenty-five years ago, with perhaps 4,000,000 seals in sight, it was possible to kill annually 100,000 male seals on the Pribilof Islands without injury to the herd. To-day with a herd of less than 175,000 seals remaining, the island catch of males is seldom more than 10,000.

The annual ocean sealing catch consisting chiefly of females has, in the meantime, dwindled from an average of 80,000 a year to a paltry 10,000; while the sealing fleet, which once numbered 120 vessels, now consists of fewer than thirty vessels.

The condition of the Asiatic seal herd is much worse, for both the land and sea catch have decreased to less than one-third of that derived from the American herd. The restoration of both herds to their former abundance and commercial importance can be brought about only by the complete suppression of ocean sealing.

As a result of the long continued investigations of the sealing industry, the natural history of the fur seal has been worked out perhaps more thoroughly and critically than that of any other mammal. Science has profited if the sealing industry has not, and many important discoveries have been made respecting the anatomy, food, age, breeding habits and migrations of this important animal.

A baby fur seal of the new group

Among the problems solved, we may consider briefly some of those connected with the wonderful migrations of the fur seal. Late in the fall the seals leave their island homes in Bering Sea and enter the Pacific Ocean. The American herd migrates southeastward to southern California, a distance of over three thousand miles, whence it moves northward along the coast during the winter, to enter Bering Sea the next summer. The Asiatic herd migrates southwestward to the coast of Japan, returning the following season by the same route. There is no commingling of the two herds either in Bering Sea or in the Pacific. Both herds remain afloat the entire winter, and neither herd is known to touch dry land anywhere except upon return to its native islands in Bering Sea. No other mammal follows with strict regularity so extensive a migration route.

ZOÖLOGICAL EXPLORATION IN SOUTH AMERICA

By Frank M. Chapman

THE report comes of the safe arrival of Mr. W. B. Richardson, who sailed from New York October 17 to collect birds and mammals for the Museum in the Cauca Valley of southern Colombia. He writes with enthusiasm of the opportunities offered in this part of South America which has been little explored. Mr. Richardson began work on the western slope of the coast range of the Andes. This has the reputation of being one of the most unhealthful portions of South America and for this reason, in connection with the fact that the region is uninhabited and is covered with heavy forest growth, it has heretofore been unworked by collectors. Advices from Buenaventura, the port of this part of Colombia, state that Mr. Richardson's first shipment was made on December 31. In this connection it may be added that while waiting the departure of the steamer from Panama for Buenaventura, Mr. Richardson made a collection of one hundred and thirty birds and mammals and his second shipment, therefore, was started before he had been absent from the Museum for three months. The American Museum is to be congratulated on having an active collector in this exceptionally promising part of South America and it is greatly to be hoped that work can be prosecuted so thoroughly that the institution will receive material to form a basis for a study of the distribution of life in this part of South America.

The American Museum is not the only American institution represented in South America which, as a matter of fact, is at present claiming greater attention from American zoölogists than at any previous time. Among the American expeditions now in South America are the following:

First, that of the U. S. National Museum which has recently initiated a biological survey of the Panama Canal zone.

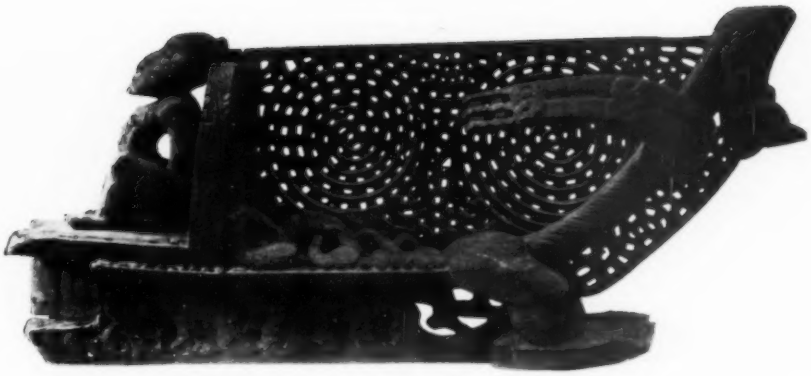
Second, an expedition under the charge of Mr. Wilfred H. Osgood, of the Field Museum, which sailed from New York on December 31, 1910, for Maracaibo in northwestern Venezuela.

Third, an expedition of the Carnegie Museum of Pittsburg, under the charge of Mr. M. A. Carriker, who is now at work in northern Venezuela.

Fourth, an expedition from the Academy of Sciences in Philadelphia under the charge of Mr. Stewardson Brown, who sailed from New York on December 26, 1910, for Trinidad.

Fifth, an expedition under the charge of Mr. S. N. Rhoads, who is affiliated with the Academy of Sciences, Philadelphia, which plans to sail from New York on December 21, 1911, for Ecuador.

It is obvious, therefore, that so far as American zoölogists are concerned, the twentieth century is South America's, and it is very greatly to be hoped that the American Museum may take a leading part in the zoölogical exploration of this still little-known continent.



MAORI CARVED CANOE PROW

THE NEW SOUTH SEA EXHIBIT

By Robert H. Lowie

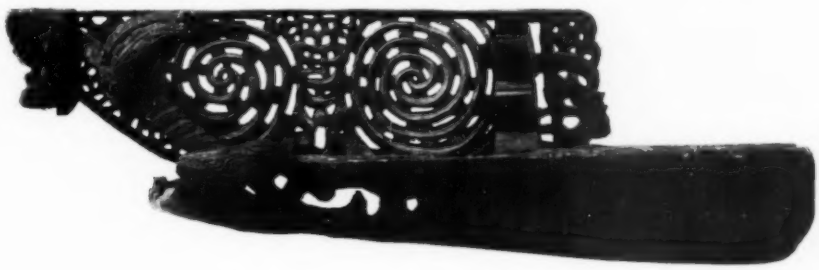
NOTES ON THE SOUTH SEA HALL

WITH the exception of a small Australian exhibit, the South Sea Hall opened to the public on January 25 is devoted entirely to the Museum's collection from Polynesia and Melanesia. Compared with the primitive folk of other regions of the globe, these South Sea Islanders are a seafaring race. In striking contrast to the African negroes, who generally manifest a strange repugnance to traveling by water, their voyages are reckoned not by hundreds but by thousands of miles. The most common craft employed in the area is a dugout canoe with an outrigger attachment. The Museum exhibit comprises a number of models of the simple canoes found in Samoa, Fiji and the Society Islands, while a larger model of a New Zealand boat illustrates the elaborate carving sometimes lavished on their structure. The tremendous distances actually traveled by the South Sea Islanders from their probable home in southeastern Asia to Hawaii and Easter Island have stimulated some scholars to account for certain similarities between South Sea Island culture and South American culture by the hypothesis that the Polynesians at one time touched the shores of the New World and succeeded in leaving their impress on the industrial life of its inhabitants. This theory, although defended by distinguished ethnologists, has been generally rejected, not because the South Sea Islanders are considered incapable of traversing the space of twenty-five hundred miles intervening between Easter Island and South America, but simply because the alleged cultural resemblances are far too few to be convincing and are readily explained by the assumption of independent development.

THE STATUE OF THE MAORI WARRIOR ON THE "LARGEST BLOCK OF JADE IN ANY MUSEUM IN THE WORLD"

The statue was made by Sigurd Neandross from direct studies of a living member of the Maori tribe. The block of jade which weighs three tons and came from South Island, New Zealand, was presented to the Museum by Mr. J. Pierpont Morgan, having been secured for him by George F. Kunz

To the general public the exhibit in the new hall will be of interest, as showing the degree of culture which could be attained by people who at the time of their discovery were wholly ignorant of any form of metal work. Stone or shell adzes took the place of iron tools, and even the huge beams and rafters of some of the native habitations were held in position not by nails but by a cordage known as "sinnet" made from cocoanut fibre. Yet with the crude appliances at their disposal the Maori were able to construct large and richly decorated buildings, of which a fair idea is given by the model in the tower off the main hall, and they had skill to carve the beautiful canoe prows which excited the admiration of early travelers. The Cook Islanders produced the ceremonial adzes and paddles exhibited in two upright cases of the Polynesian section of the Hall; and the Melanesians of New Ireland executed their sacred carvings which while not beautiful according to our standards display a high degree of technical skill.



The Statue of the Maori Warrior

DURING the past winter a troup of Maori, the native people of New Zealand, performed some of their old-time dances in the Hippodrome and it was possible to have them pay several visits to the Museum, on which occasions they were photographed in various positions. It seemed highly desirable to secure life-size representations of members of the company in characteristic attitudes and after some preliminary discussion the chief Kiwi and one of the younger men, Hautuoterangi, consented to be cast. The pose suggested to the latter was that of an ancient warrior in an attitude of defiance, with tongue protruding and one leg above the ground. Thus originated the figure of the Maori warrior at the entrance to the tower of the new South Sea Hall.

Hautuoterangi felt highly honored to be the representative of his race, so that his descendants might see the statue when they visited the great city at any future time. His family pride was evinced in a desire that his family register for many generations back be engraved upon the jade.

The following from Robley's *Moko: or Maori Tattooing* suggests the requirements of the war dance pose: "The war dance.... involved constant thrusting out of the tongue and so much distortion of the features that the blue lines of the Moko formed a quivering network. The time or cadence of the dance was marked by striking the palm of the left hand against the thigh."

As the work progressed, members of the Maori troupe called at the Museum and expressed satisfaction with the statue as a faithful record of native life. Their advice was especially serviceable on the subject of tattooing, for the Government has for some time prohibited the tattooing of Maori men so that for this phase of the work Mr. Neandross would otherwise have been obliged to rely wholly upon second-hand information, which he was thus enabled to check by the oral communications of native authorities. Thus the figure of Hautuoterangi, together with the Robley Collection of tattooed heads exhibited in the tower itself, conveys a very fair idea of probably the most distinctive form of personal decoration of the South Sea Islanders.

[The figure of the "Maori Warrior" is especially interesting to those who have followed the history of its making. The finished statue is the embodiment of a plan held by the Director of the Museum to whom the largest block of jade in the world suggested the need of some heroic theme to set forth the relation of this stone to the Maori people, who considered jade one of the most desirable articles of their wealth.

A year or more before the block of jade was brought into the hall where it now has position, Mr. Neandross had made sketches for a Maori figure to be placed upon the stone. Impetus was given to the work by the arrival of the Hippodrome Maori troupe in November of 1909, the friendly interest of these people in the Museum's project being gained through Professor H. E. Crampton.

It chanced that when Professor Crampton took the steamer at San Francisco for his latest journey to the South Seas, in the summer of 1909, he met a representative of the Hippodrome management who was on his way to New Zealand to bring back a band of Maoris. Some weeks after Professor Crampton's arrival at Tahiti, this man, with Mr. Whyte, the representative of the New Zealand Government, and thirty Maoris, came there from Auckland, in order to take the steamer to San Francisco; thus Professor Crampton met the entire crowd at that time. Later he went to New Zealand himself, and while visiting the volcano and geyser districts in the interior, spent some time at the very village from which these people had come, where he met their families and saw many of their native dances and heard their songs. On returning to New York, therefore, he was interested not only to see these people and tell them some of the later news from their own country and hear the same songs that he had heard ten thousand miles away in New Zealand, but also to bring the whole matter to the attention of the Department of Anthropology, which arranged for the visits of the Maoris, so fortunate in results for the Museum.

The statue represents some of the best work in the Museum done by Sigurd Neandross. It has the stamp of accuracy, being cast directly from a Maori native and the coloring studied from the same individual. The pose was a very difficult one to get in a cast, for in such tense action the muscles of a model tire and relax. Success was gained by making the mold in parts, and of course the open mouth and tongue and the tattooing had to be modeled.— Editor]

NEW ZEALAND JADE

By George F. Kunz

THE largest specimen of jade known in any museum in the world is that in the American Museum. It was found in 1902 and weighs three tons, measures seven feet long and four feet wide and, in fact, is the largest mass of jade, of which we have record, that has ever been brought to civilized lands from anywhere. One of the greatest previously known is that in the British Museum and the second largest known piece [1] was found by the author in 1899 at Jordansmühl, Silesia. This piece second in size is now on deposit at the American Museum.

In New Zealand, jade is looked upon as a lucky stone and the common saying is that no one should leave New Zealand without taking away as a luck piece a bit of "green-stone." The earliest voyagers found that the Maoris of New Zealand wore ornaments made of stone of two varieties, the more important and valuable of which was a variety of jade known as nephrite. Among the ornaments were charms carved into the shape of flat, grotesque, seated figures, known as hei-tikis. The head of the figure was always tilted over to one side and much exaggerated, with the eyes exceedingly large and generally rendered very bright by an inlay of broad circles of a red, shellac-like wax, often holding in place broad, hollow circles of green abalone shell, the jade centres which protruded through the shell figuring the pupils of the eyes. From this New Zealand jade were also made certain Maori axe-shaped implements, drilled at the upper end, borne by the chiefs as badges of office. The one aloft in the right hand of the "Maori warrior" has a sharp cutting edge and measures fifteen inches in length. While these objects were ceremonial axes, they were probably employed on occasion as death-dealing weapons.

New Zealand jade has been found in largest quantities on the west coast of South Island at Milford Sound, in boulders associated with, and presumably found in, a rock-matrix of chlorite schist. The boulders appear in the mountain streams and usually range in weight from a few ounces to fifty or sixty pounds. This jade is generally green; on the outer surface of boulders it has often altered to a brown or yellow-brown sub-translucent material. The interior, however, is more or less translucent and occasionally of the richest green color as if covered with oil. In composition it is a silicate of lime and magnesia. It is a trifle less hard than quartz, but from its matted, felt-like structure is of extreme toughness, thus requiring

[1] Described in the Catalogue of Heber R. Bishop Collection, 2 vols., 430 pp.

much more manipulation to shape or polish than does quartz or agate. It has been extensively used in the arts in jewelry during the past six or eight years.

Much New Zealand jade has been worked into Chinese art objects, but the greater part of the material used in China, whether green or white, came from the Kuen-lun Mountains, Turkestan, south of Khotan. No white jade has ever been discovered in New Zealand, and no jade has ever been discovered in China proper, although all the worked articles from that empire are referred to as "Chinese jade." For the Chinese, jade symbolized all that was high and pure. Kwan Chung, in the seventh century before Christ, wrote that its smoothness symbolized benevolence; its brilliant lustre, knowledge; its toughness, justice; its rarity, purity of soul. That the smallest crack on its surface was immediately visible typified candor and the fact that although passing from hand to hand it was never soiled made it a symbol of a life governed by high moral principles.

Superstitious ideas largely contribute to the popularity of jade in China. Some thirty years ago a Russian officer saw on one of the roads in Turkestan a block of jade that had evidently been abandoned in the course of transportation. He was told that while it was on its way from the quarry of Raskem-Darya to Peking an order came to leave it on the road, for the heir apparent to the Chinese throne had just been attacked by a serious disease after having slept on a couch made of Raskem jade.

The nephritic variety of jade is often called the true jade and must not be confounded with jadeite, a distinct mineral which is a trifle harder, has a higher specific gravity, and is besides a silicate of alumina and soda. This latter material was that found in ancient Mexico worked up by the natives into various ornaments, of which the American Museum contains a fine series.

The exact place of occurrence of the Mexican jewel jadeite has never been discovered. In our own time jadeite is found only near the village of Tamaw, five days journey from Mogung in Upper Burma, near the Chinese boundary. It is of a white to green color or else white with green splashes of color often of rich and magnificent tints, and as much as $15,000 has been paid for a thumb-ring of the choicest of this material. Neither nephrite nor jadeite has been found within the limits of the United States except in Alaska where true jade-nephrite has been discovered in Jade Mountain by Lieutenant Stoners, U. S. N. In this territory many fine jade implements have also been found and excellent representations of these are in the Museum collection.

A TREASURE OF ANCIENT CHINESE BRONZES

By E. C. B. Fassett

IN 1901, Mr. Jacob H. Schiff donated funds to the American Museum for making investigations and collections in China, the administration of these funds being entrusted to a committee organized under the auspices of the Museum with the late Morris K. Jesup as chairman.

The work was placed in the hands of Dr. Berthold Laufer, who had just completed work as a member of the Jesup North Pacific Expedition to Eastern Siberia. Dr. Laufer spent the three years from 1901 to 1904 in China and the collection thus obtained is now in the Museum's Chinese Hall in the west wing of the building, while a letter recently received from Dr. Laufer, calls attention to its greatly increased value. He says in fact that after a diligent search in China he has been unable to make another collection of equal importance. His studies of this collection of bronzes appeared in 1909 in a report of the East Asiatic Committee of the Jacob H. Schiff Chinese Expedition.[1] This was published in Leyden because of the facilities there afforded in the way of Chinese type.

THE OLDEST AMONG THE MUSEUM'S CHINESE BRONZES

Bronze libation cup used in ancestor worship Shang Dynasty (1766–1122 B. C.). This bronze vessel must have taken its rise long before historical times, since allusions to it in Confucius are referred to the times of legendary emperors

Among the specimens in the Chinese Hall there are two absolutely unique collections, the ancient Chinese bronzes and certain mortuary pottery of the Han period. Because of their relation to each other and to modern art, they have much the same interpretative value to East Asiatic study that the pre-Homeric or Minoan collections have to Greek art.

The history of China has charm because of its antiquity, its unparalleled continuity and the survival of its culture.

[1] CHINESE POTTERY OF THE HAN DYNASTY. By Berthold Laufer. Published by E. J. Brill, Leyden, 1909. Report of the East Asiatic Committee of the Jacob H. Schiff Chinese Expedition.

ANTIQUE BRONZE MIRROR DECORATED IN CONCENTRIC RINGS (DIAMETER 8 IN.)

The first or inner ring holds the mystic trigram, the "pa-qua," accredited to the first of the legendary emperors (2852-2738 B. C.). This series of lines is of symbolic meaning embodying the oldest system of Chinese mystic philosophy. The second ring shows the "twelve ancient animals"; the outer, a very decorative inscription of twenty Chinese characters

BRONZE FU, CHOU DYNASTY

A sacrificial vessel for holding offerings of boiled grain in state worship

Following the mythological period (2852 B. C. to 2205 B. C.) came the period of the "Three Ancient Dynasties," the Hia (2205 to 1766 B. C.), the Shang (1766 to 1122 B. C.) and the Chou (1122 to 255 B. C.), during which the purely native culture and institutions of China took form with-

A BRONZE SACRIFICIAL WINE JAR OF QUADRANGULAR FORM. (HEIGHT 10 IN.)

This wine jar is one-half tin in an alloy of copper according to the formula from the Chou dynasty (1122–255 B. C.) and bears a remarkable inscription proving it to have been made in the "Shang fang," the court atelier of the Han in the year A. D. 12.

"The shapes of sacrificial vessels. . . . have in the course of imitation become the models in the later Jade and Ceramic industries. They have thus exercised no little influence on European pottery, the forms of which are, in their origin, not confined to the models handed down by Greece and Rome." Hirth

BRONZE "HILL-CENSER" (7 IN. HIGH)
First type of Chinese censer made. Han dynasty

out foreign influence. Ancestor worship, always the leading feature of all religious belief among the Chinese, developed its highly elaborated ceremonials during these dynasties. The ritual of the sacrificial service increased in minuteness of detail and affected public and private life before the Chou or last of the Ancient Dynasties, when it reached its highest development; while the bronze bells and sacrificial vessels of manifold forms, each devoted to especial purposes and decorated with a great variety of symbolic ornament, bear witness to the culture and creative tendency of the Shang or middle period.

Following the Three Ancient Dynasties came the time of the Emperor Shi-huang-ti (255 to 206 B. C.) who built the great Chinese wall. Under the cruel law of this emperor antiquities had to be concealed lest they be destroyed. But after this the Han period (206 B. C. to 25 A. D.) proved a very productive time marked by external influences combined with much native originality. And still much later than the Han period, during the late Sung period (960 to 1126 A. D.) there was a great art renaissance, when bronzes hidden in ancient times were discovered and studied from a critical point of view.

It should be recalled that the art of bronze casting had reached perfection at the earliest period of the Ancient Dynasties. The Emperor Yü (2205 to 2198 B. C.) is said to have cast the "Nine Tripods" from bronze contributed from the nine provinces, upon which maps and records of the nine divisions of his empire were engraved. These tripods passed from dynasty to dynasty as emblems of the imperial power for over two thousand years.

The period of the manufacture of the bronzes in the Museum extends from the eighteenth century before Christ to the seventeenth century after. The collection therefore allows the unusual privilege of comparing original examples of the early Shang and Chou periods and of the somewhat less early Han period with those of the later Sung and Ming periods. This comparison proves the forms similar in the ancient and later work, but shows changes in detail, ornament and utility. Among the oldest pieces

are types of the bronze vessels used in the rites of ancestor worship, the form and detail of which were prescribed by the ritual of the ancient national religion. The demands of this religious cult created an epoch of artistic vases and other well-proportioned forms defined according to the nature of the offerings whether of wine, water, meat, grain or fruit.

Vessels for carrying wine were of vase forms. The quadrangular smooth wine jar in the illustration bears this interesting inscription, "Made in the Shang fang (court atelier of the Han) in the year A. D. 12." This type occurs as early as the Chou dynasty. The tou, a sacrificial vessel for offerings of meat, was shaped like a goblet, a vessel of common utility which seems to have existed in the Hia dynasty (2205 to 1766 B. C.). Our example is a bronze tou of the late Ming time, illustrating the bowl with the stem, the base of which is bell-shaped; the cover of this bronze has been lost. It is a good imitation of the ancient Chou type (1122 to 255 B. C.). The fu, a rectangular vessel evolved from a basket, was used for holding grain or fruits in state worship.

BRONZE TOU

A vessel of the ancient Chou type for offering cooked meat to the spirits of ancestors (The cover is lost)

The large bronze temple bell dates from the Chou period. It has peg-like ornaments, the utility or symbolism of which is not entirely understood. Similar peg-like forms appear on the backs of the bronze mirrors.[1] There are many examples of metallic mirrors in the collection, none of which are earlier than the Han dynasty, though literary references indicate the

[1] CHINESE METAL MIRRORS, with Notes on Some Ancient Specimens of the Musée Guimet. By Friedrich Hirth.

existence and use of mirrors from an earlier period. The one pictured is decorated with relief ornaments in concentric rings. The outer ring bears ideographs; the second ring presents the favorite and much discussed motive

BRONZE TEMPLE BELL, CHOU DYNASTY (1122–255 B. C.) (HEIGHT 1½ FT.)

Meaning of knob ornament not thoroughly understood; similar ornaments occur on Chinese metal mirrors

"The oldest extant witnesses of the antiquity of Chinese culture are the sacrificial vessels and bells of the Shang and Chou Dynasties"

"the twelve animals"; the inner ring holds the mystic trigram or "pa-qua" attributed to Fu-hi, the first of the three ancient sovereigns, and the center is marked by a tortoise-shaped perforated knob through which the cord handle passes.

Perhaps the hill-censers are the most unique example of the Han period. The Chinese name for these translates "brazier or stove of the vast mountain" from the fact that the cover has the shape of a hill emerging from waves. Openings in the cover permitted the escape of the incense. This mountain design is symbolic of the thought of the period and probably refers to the "isles of the blest," the abode of the immortals. This hill-censer of the Han period was the first type of censer made, the ancients not burning incense and so having no incense stoves. The favorite form of censers now found in Buddhistic, Taoistic and Confucian temples is from a bronze caldron originally devoted only to meat offerings. Censers made in the Ming period are numerous and of great beauty and the forms of all Chinese ritual vessels appear not only in bronze, but also in pottery, jade, glass and porcelain. To-day the early history of Chinese porcelains is still unwritten but the student will find in the Museum's Chinese Hall many early period examples of bronze and pottery which inspired the forms of the finest porcelains.

Dr. Laufer says: "The fact of a type of vessel sanctified for millenniums within the strict boundaries of rigid religious observances suddenly changing its object under outside currents of influence, but still retaining the shape, is of paramount ethnological value since it proves a higher degree of tenacity of forms and greater changeability of the ideas embodied in them: the forms survive while the ideas vanish or alter."

"THE AGE OF MAMMALS"

By William K. Gregory

THOSE whose interests are wholly limited to every-day affairs will doubtless not find time for more than a hasty glance at the very numerous maps, diagrams and pictures in Professor Osborn's recently published book, "The Age of Mammals."[1] But those who possess in some measure the "scientific imagination" will find here a new world and a new point of view, from which Man may be seen in his proper historical setting.

[1] THE AGE OF MAMMALS in Europe, Asia and North America. By Henry Fairfield Osborn. 8vo., pp. XVII + 635, figs. 220. The Macmillan Company, 1910.

Such readers will naturally be impressed with the enormous lapse of time required for the historical progression outlined in this book, especially when they consider the various estimates, ranging from three to six millions of years, which have been assigned by different investigators as the time equivalent of the Tertiary period. Nevertheless this period covers only the later chapters in mammalian history. For the class of which man is now the dominant member was already represented by certain little-known forms in the Triassic, at a time when the dinosaurs had not yet attained their preëminence and long before the Rocky Mountains were uplifted.

The diagram here reproduced summarizes the historical succession of the Tertiary and Quaternary formations in western North America, giving the maximum thickness of each and distinguishing the deposits of the Great Plains from those of the Rocky Mountains. The "zones" are time periods, named from mammalian genera that are especially characteristic of the corresponding formations, while on the extreme right are the names of some of the other mammals that serve as time markers in the "chronometer of evolution."

This diagram epitomizes a part of the results of Professor Osborn's studies on the "correlation of Tertiary mammal horizons in Europe, Asia and North America," a problem which has been slowly worked out with the aid of many colleagues in this country and abroad. From these data he draws some very far-reaching conclusions on the origin and spreading of faunas from continent to continent, and on the appearance and removal of geographical barriers to faunal interchange. Such conclusions invest the dry facts of geographic and geologic distribution with a larger and more fruitful meaning.

Regarding the evolution of mammals, the introduction deals very clearly with the rise of palæontology and with the laws of evolution of the teeth, feet and skull. The "irreversibility of evolution" and the causes of the extinction of mammalian species are among the many topics of general biological interest.

Very gratifying is the fact that this Museum has been able to furnish a large part of the material for a work of such far-reaching importance to the student of mammalian evolution. Many of the mounted skeletons in the Hall of Fossil Mammals appear here, accompanied by excellent restorations from the gifted brush of Charles R. Knight. The numerous and thorough Museum expeditions in the West and elsewhere, which have been carried on systematically during the past twenty years, furnish scores of field pictures, maps and geological sections. The manifold systematic, faunal and stratigraphic studies by Professor Osborn, Dr. Matthew and others, have thus been joined synthetically with the results of palæontologists and geologists the world over.

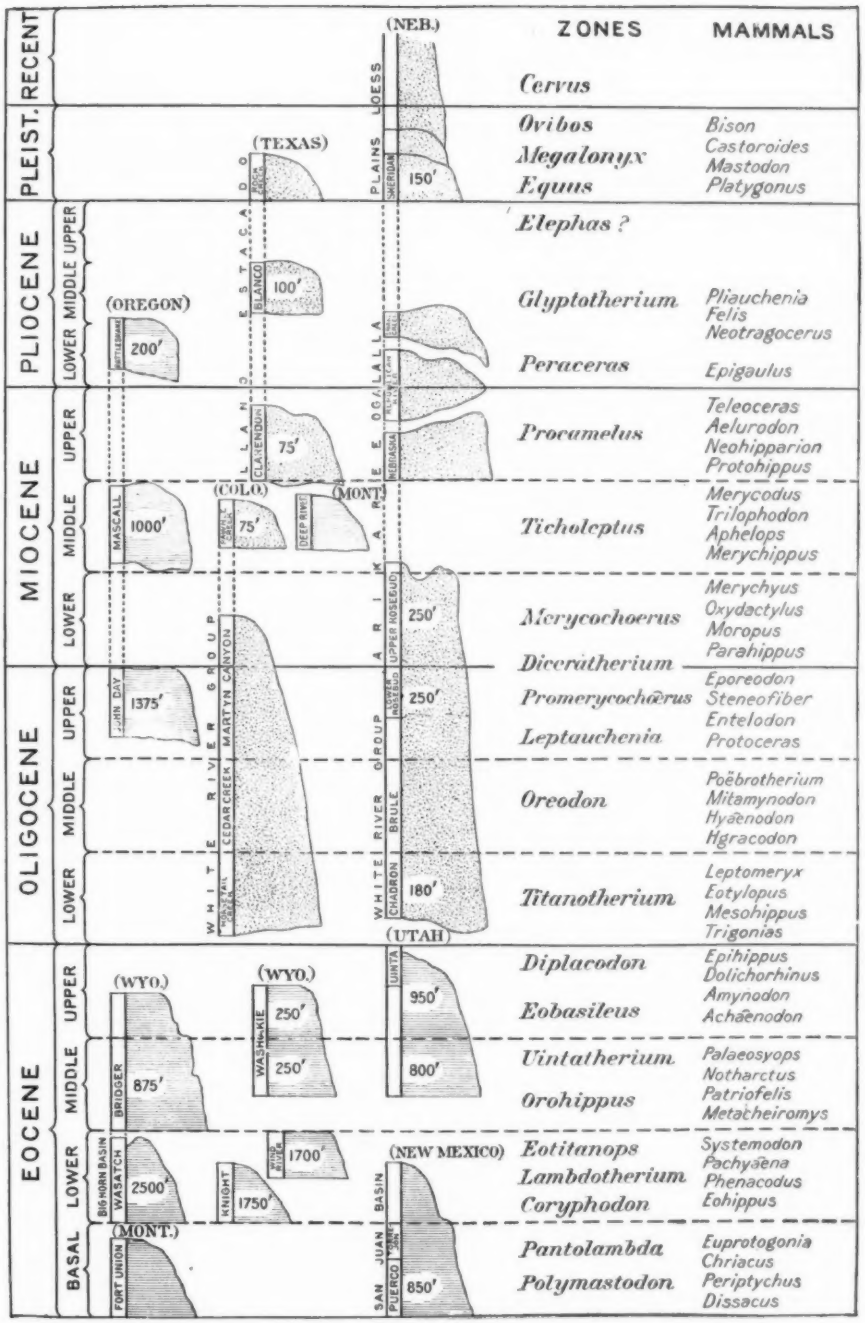
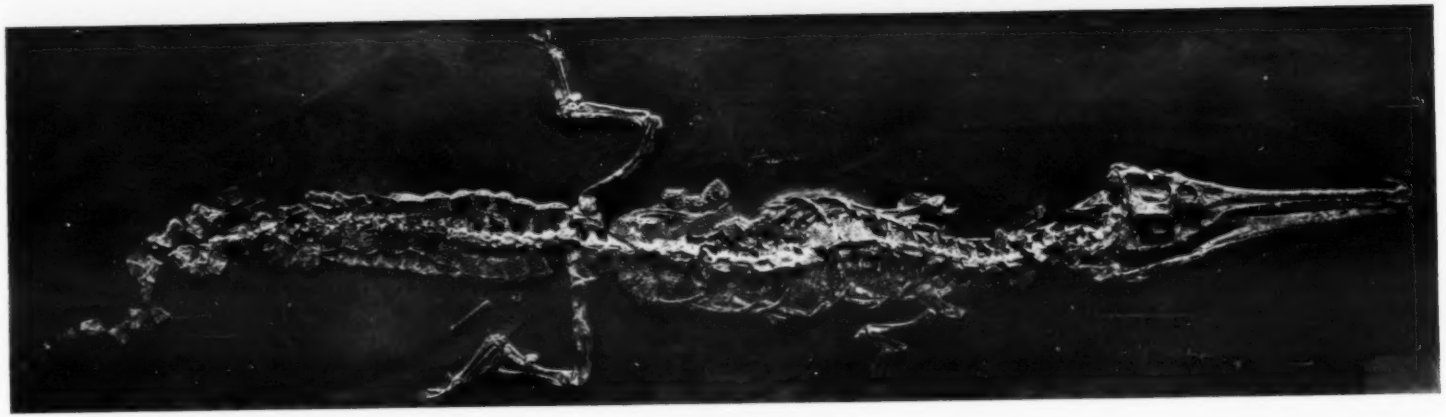


Diagram from Professor Osborn's *Age of Mammals* showing the supposed time sequence and equivalence of the principal fossil mammal bearing deposits of the West. The "Zones" are time divisions named from characteristic mammals found in the succcessive formations



68 SKELETON OF AN EXTINCT MARINE CROCODILE PRESENTED BY THE SENCKENBERG MUSEUM

The Senckenberg Museum of Natural History opened its new building to the public in October, 1907, at which time, as to-day, the place of honor in the court of the central structure was given to the great fossil skeleton of the Diplodocus, the only original Diplodocus in Europe, that is composed of bone and not of plaster. This gift of the late Morris K. Jesup was made in the hope that it might prove instrumental in binding more closely together not only the New York and Frankfurt Museums but also the American and German peoples. It will be remembered that recognition of the gift was made by the conferring of honors upon the late President Jesup and upon Director Bumpus, the latter having gone to Frankfurt to be present at the dedication of the building. It is especially gratifying that the Senckenberg Museum has sent this historic fossil as proof of continued good will

HISTORIC FOSSIL FROM SENCKENBERG MUSEUM

THE valuable fossil described in the accompanying letter has been accepted for the American Museum by President Osborn with expressions of appreciation of the gift not only as such but also as an "index of the peculiarly cordial relations which prevail between the Senckenberg Museum and the American Museum and of the spirit of broad scientific interest which animates both."

SENCKENBERG NATURAL HISTORY SOCIETY,
FRANKFURT-AM-MAIN, *December* 16, 1910.

HONORED COLLEAGUE:

The Senckenberg Natural History Society has wished for a long time to dedicate a gift to the American Museum in token of especial high regard. Since our Museum has recently received the best specimen yet found of *Mystriosaurus bollensis* Cuvier we are able to release our older specimen, likewise very fine, a photograph of which I enclose. In their meeting of December 7 the administration of our society concluded therefore to present this specimen to the American Museum of Natural History.

In the meantime our trustee, Dr. Lotichius, has informed us that your Museum would be disposed to arrange an exchange of our *Mystriosaurus* for a skeleton of the American short-legged rhinoceros. Although I do not deny that the Senckenberg Museum would welcome with great pleasure the possession of a good skeleton of *Teleoceras*, we beg that in consideration of the decision previously reached by us, you will feel free to receive the *Mystriosaurus* as a gift and we hope for its friendly acceptance.

I add the following data in regard to the specimen. The *Mystriosaurus* was obtained at Holzmaden in Württemberg in the Posidonia zone of the Liassic. It was described by H. G. Bronn (Abhandlungen uber die gabialartigen Reptilien der Liasformationen, Stuttgart 1841) who stated it to be the largest and most complete of the German skeletons. Andreas Wagner (Abhandlungen Kgl. Bayer. Akademie Wissenschafter Bd. II p. 545 ff, 1850) considered the species identical with *Mystriosaurus münsteri* Wagner. Bourmeister (der fossile Gavial von Boll, Halle 1854) established for this species the older name *M. bollensis* Cuvier. The specimen which you receive is, therefore, the type specimen of the invalid species *M. senckenbergianus* Br.

With the expression of our highest consideration and with friendly greetings, I am,

Yours very sincerely,

ERNST ROEDIGER,
Director of the Senckenberg Museum of Natural History.

ONE HUNDRED DOLLARS FOR A FOSSIL EGG FROM MADAGASCAR

AN egg that is two feet, eight inches long and two feet, two inches around and that has a capacity of about two gallons is a new possession of the Museum, one hundred dollars having been the purchase price. The specimen is a fossil from Madagascar and has been in the British Museum on loan since 1892. It is unusually perfect, the shell unbroken although finely pitted in places showing effects upon it before it passed into this unchangeable state.

Fossil eggs of this description first came to the notice of scientists in 1850 when discovered in the bed of a torrent in Madagascar. The natives were familiar with them, using them sometimes as vessels for domestic purposes; and these natives had also a tradition of a bird large enough to carry off an ox. At the time of the discovery there was much discussion by scientific men as to whether what came out of these eggs in ancient times was bird or reptile and after a few bones discovered somewhat later decided in favor of bird which was named Æpyornis, there was much difference of opinion as to its kind and relationships. Some placed it with dodos, others with auks, and still others with vultures or large birds of prey. Some fifteen years later, in 1867, various less incomplete fossil remains came to light, which decided definitely that the bird was not only of massive proportions, but also that it was short-winged, thus proving its alliance to the Dinornis of New Zealand and to the Apteryx. Its height was supposed to have been six or seven feet although previous calculations had placed it at twelve feet.

There is no fossil specimen of the bird itself in the American Museum, but exhibited in the Geological Hall are some of its more or less distant relatives, the Apteryx, the Moas — fossil New Zealand birds which were nearly wingless — and the gigantic Dinornis, standing nine feet high. The egg will be placed on exhibition soon and when seen in comparison with the eggs of birds of ordinary size or even with that of the ostrich will make clear that knowledge of these eggs in prehistoric times may well have given rise in oriental fable to the stories of a giant "roc able to carry off an elephant in its talons."

MR. W. DEW. MILLER, Assistant in the Department of Mammalogy and Ornithology, has been honored by an appointment as inspector of imported live birds at the Port of New York under the direction of the Chief of the United States Biological Survey.

MUSEUM NEWS NOTES

SINCE our last issue the following persons have been elected to membership in the Museum:

Life Members, MESSRS. ALLISON V. ARMOUR, ARTHUR D. GABAY, WILLIAM PERKINS WADSWORTH and GEN. THOMAS HUBBARD;

Sustaining Member, MR. EDWARD J. DE COPPET;

Annual Members, MESSRS. PHILIP G. BARTLETT, JULIUS HENRY COHEN, WILLIAM N. COHEN, HARRY A. CUSHING, JULIUS GOLDMAN, EDGAR HUIDEKOPER, FREDERIC E. HUMPHREYS, C. D. HUYLER, MICHAEL JENKINS, S. KELLER, JOHN DRYDEN KUSER, WILLIAM MITCHELL, WILLIAM S. MYERS, CHARLES J. OBERMAYER, JOHN OFFERMAN, EDMUND PENFOLD, F. POEL, JAMES H. SCHMELZEL, R. A. SCHNABEL, HARPER SILLIMAN, CHARLES L. TIFFANY, JOHN J. D. TRENOR, DRS. CHARLES BROWNE, L. PIERCE CLARK, JAMES MORLEY HITZROT, WILLIAM J. MERSEREAU, TEOFILO PARODI, A. EMIL SCHMITT, REV. DR. WALTER THOMPSON, MMES. WILLIAM LANMAN BULL, B. OGDEN CHISOLM, RUFUS COLE, CLARENCE M. HYDE, SAMUEL KEYSER, WILLIAM N. KREMER, JOSEPH SHARDLOW, and MISS EDITH M. KOHLSAAT.

PRESIDENT HENRY FAIRFIELD OSBORN was made Curator Emeritus of the Department of Vertebrate Palæontology at the meeting of the Executive Committee on January 18, 1911.

THE NEW YORK ZOÖLOGICAL SOCIETY has presented to the Museum a series of six hundred animal photographs taken from time to time through a long period of years at the Zoölogical Park.

ONE of the attractive features of the opening of the new South Sea Islands Hall on January 25, 1911, was a collection of thirty-one paintings made among the South Sea Islands by the late John La Farge and loaned by Miss Grace Edith Barnes.

MR. CHARLES L. BERNHEIMER has recently presented to the Museum a splendid collection of whaling implements including harpoons and a bomb gun; also, by the efforts of Mr. Frank Wood of New Bedford, Mass., a complete outfit for a whaling boat has been secured through exchange. These are important additions to the Museum's collections, for even at this date it is exceedingly difficult to get many of the articles which went to make up the equipment used by the deep sea whalers of New Bedford and a few years from now will be quite impossible.

AT the meeting of the Executive Committee on January 18, 1911, Miss Mary C. Dickerson was appointed Curator of the Department of Woods and Forestry and Assistant Curator in Herpetology.

THE Department of Mammalogy and Ornithology has recently received from the Stefánsson-Anderson Arctic Expedition a valuable collection of mammals and birds made during 1909 and 1910 by Dr. R. M. Anderson along the Arctic coast and islands from the Mackenzie delta westward to Point Barrow. The birds include water-fowl and land-birds characteristic of the high North, such as jaeger and other gulls, the spectacled eider and other ducks and geese, various species of shore birds, large series of two species of ptarmigan, Lapland longspurs, redpolls, snow buntings, wheatears, yellow wagtails, horned larks, etc. The mammals include ground squirrels, lemmings, voles, Arctic fox, weasels and shrews. The Colville River was ascended to the Endicott Mountains, in which district were obtained a good series of the white sheep and sixteen specimens of the Barren Ground caribou. The route of the expedition was for the most part through unexplored ground, and the birds and mammals obtained are thus of the highest interest.

LECTURE ANNOUNCEMENTS

MEMBERS' COURSE

The spring course of lectures to Members will be given in March.

PEOPLE'S COURSE

Given in coöperation with the City Department of Education.
Tuesday evenings at 8:15 o'clock. Doors open at 7:30.

The last four of a course of lectures by DR. ARTHUR JUDSON BROWN.

February 7 — "Dependent Korea."
February 14 — "Changing China."
February 21 — "America in the Philippines."
February 28 — "Siam."

Saturday evenings at 8:15 o clock. Doors open at 7:30.

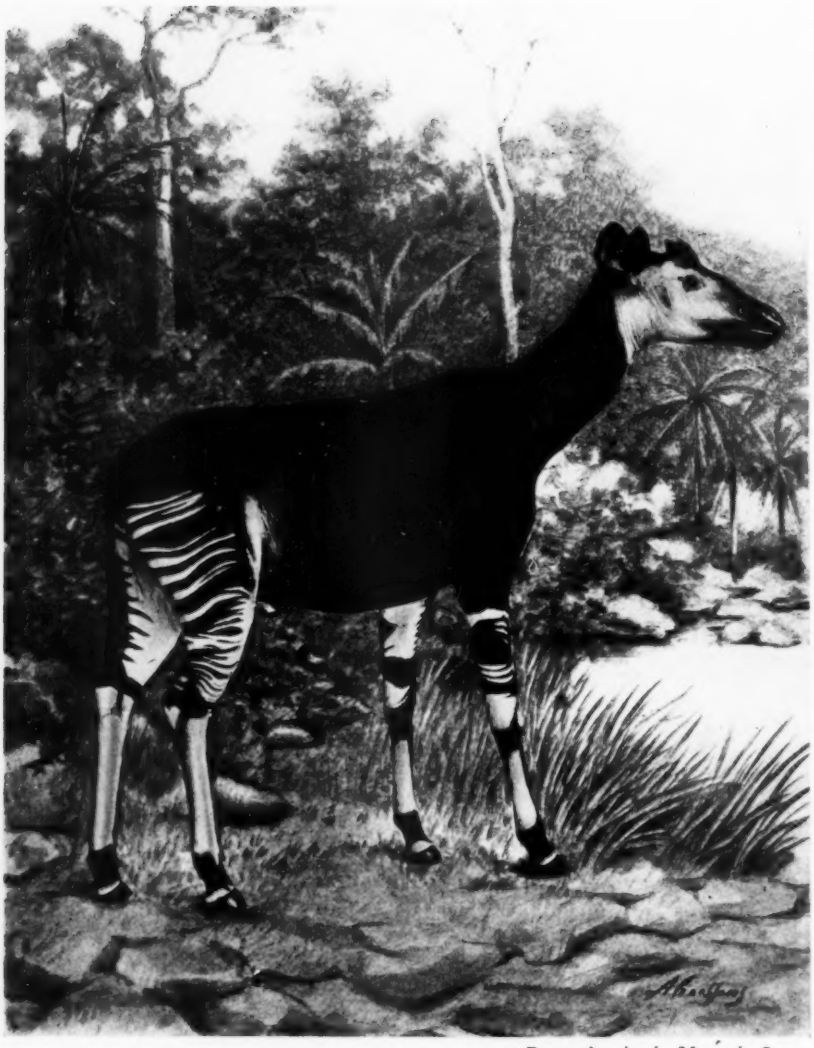
The last four of a course of eight lectures on Public Health.

February 4 — DR. LIVINGSTON FARRAND, "Tuberculosis: The General Problem; the Organized Campaign against the Disease."
February 11 — DR. JAMES ALEXANDER MILLER, "Tuberculosis as a Social Problem. Method of Treatment."
February 18 — PROF. C-E. A. WINSLOW, "Water Pollution and Water Purification."
February 25 — MR. LAWRENCE VEILLER, "Housing and Health."

LEGAL HOLIDAY COURSE

Fully illustrated. Open free to the public. Tickets not required.
Lectures begin at 3:15 o'clock. Doors open at 2:45.

February 22 — PROF. C-E. A. WINSLOW, "Insect Carriers of Disease."



From *Annales du Musée du Congo*

OKAPIA JOHNSTONI SCLATER. ADULT MALE. MOUNTED UNDER THE DIRECTION OF M. DE PAUW AT THE UNIVERSITY OF BRUSSELS